

Cited Document 3 (JP-A-09-258828)

<Translation of designated Parts>

[Claims]

[Claim 1]

An ultra-precise positioning device including:

a feed mechanism having, in the moving direction of a moving body, a plurality of feed units in each of which first and second moving elements for clamping/releasing-from-clamp the moving body or feeding/returning it in the moving direction are combined together in a plane to which a clamp direction and moving direction of the moving body belongs;

storage means for previously storing a phase and amplitude value of the first and second moving elements in order to repeatedly carry out, on a feed-unit basis and by changing a phase, a series of operations of feeding the moving member by extension in the moving direction each time the moving body is clamped by any of the feed units and then releasing it from clamping into contraction in the moving direction;

phase etc. calculating means for calculating a phase and amplitude command value to be given to the first and second moving elements from the phase and amplitude value stored in the storage means;

drive command value output means for outputting a drive command value to the first and second moving elements depending

upon a result of calculation by the phase etc. calculating means; and

clamp means for clamping the moving body by at least two or more of the feed units after completing the movement of the moving body.

[Claim 2]

An ultra-precise positioning device according to claim 1, wherein the calculation by the phase, etc. calculating means of a phase and amplitude command value to be given to the first and second moving elements is made from at least any one of a moving target position and a moving speed of the moving body as well as a phase and amplitude value previously stored in the storage means.

[0026]

Meanwhile, according to the present invention (claim 2), movement control of a moving body can be flexibly coped with by enabling to change the moving speed of the moving body, to change the moving target position thereof or to change both the moving speed and the moving target position, in addition to the invention in claim 1.

ULTRA-PRECISE POSITIONING DEVICE

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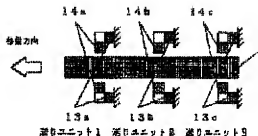
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Abstract of JP 9258828 (A)

PROBLEM TO BE SOLVED: To provide an ultra-precise positioning device whereby long stroke driving is possible and also positioning with high rigidity and high precision is executed. **SOLUTION:** A series of operations that a travelling body 1 is held between one of clamp elements 14a-14c so as to be carried by extending carrying elements 13a-13c and the carrying elements 13a-13c are contracted after the release of holding are repeated at every carrying unit 1-3. When the travelling object 1 reaches a travelling target position, the clamp elements 14a-14c are alternately extended and contracted while the travelling body 1 is kept to be still. Then, the carrying positions of the carrying elements 13a-13c are simultaneously set to the intermediate position of extending/contracting span. After that, the clamp elements 14a-14c are made to be in a holding state. After the completion of holding, the feed-back control of the position as against the carrying elements 13a-13c is executed based on a position signal which is detected by a position sensor.



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